

Claims

1. A fluid cooling device as a structural unit with a drive motor (10) driving a rotating fan wheel (12) in a fan housing (28), and at least one fluid can be conveyed from a reservoir tank (20) into a hydraulic working circuit which basically heats the fluid in operation and which leads to an assigned heat exchanger (24) from which the fluid returns cooled to the reservoir tank (20), characterized in that parts of the reservoir tank (20) at least partially enclose the fan wheel (12) and in this way form the fan housing (28) which preferably consists of a plastic material.
2. The fluid cooling device as claimed in claim 1, wherein the drive motor (10) drives at least one fluid pump (14, 16) which is mounted on a shaft line jointly with the rotating fan wheel (12) and/or wherein the respective fluid pump (14, 16) provided with its own drive is a component of the fluid cooling device elsewhere.
3. The fluid cooling device as claimed in claim 1 or 2, wherein the reservoir tank (20) has a bottom-side trough part (30) on which an upright-side trough part (32) is seated and is integrally connected to the bottom-side trough part (30), and wherein the indicated trough parts (30, 32) form a hollow collar (34) in which the fan wheel (12) is rotatably mounted.
4. The fluid cooling device as claimed in claim 3, wherein the hollow collar (34) delimits a first opening cross section (54) which is covered by the respective heat exchanger (24), and has a second opening cross section (58) which faces the drive motor (10) for the fan wheel (12).
5. The fluid cooling device as claimed in claim 4, wherein the opening cross section (54) of the hollow collar (34) which faces the respective heat exchanger (24), is chosen to be larger in

free cross section than the cross section of the opening cross section (58) facing the drive motor (10), and wherein the pertinent change in cross section takes place continuously, especially by means of tapering air guide surfaces (60).

6. The fluid cooling device as claimed in one of claims 3 to 5, wherein the upright-side trough part (32) in the area of one free end of the bottom-side trough part (30) is mounted vertically standing on it and wherein the longitudinal extension of the bottom-side trough part (30) corresponds at least to the overall length of the respective fluid pump (14, 16) in addition to the drive motor (10).
7. The fluid cooling device as claimed in one of claims 1 to 6, wherein the reservoir tank (20) has at least two tank chambers (70, 72) which are at least partially separated from each other, and in which a respective definable amount of an assignable fluid which supplies one hydraulic working circuit at a time can be stored.
8. The fluid cooling device as claimed in claim 7, wherein for each amount of fluid which can be separated in the reservoir tank (20) by way of the individual tank chambers (70, 72) an independent heat exchanger (24) and an independent fluid pump (14, 16) are provided.
9. The fluid cooling device as claimed in claim 7 or 8, wherein the hollow collar (34) on its side facing away from the bottom-side trough part (30) has tank openings (76) for supplying fluid to the respective reservoir chamber (70, 72).
10. The fluid cooling device as claimed in one of claims 1 to 9, wherein the reservoir tank (30) is produced from polyethylene material as plastic in a rotational molding process.